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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

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| IN RE APPLICATION OF | : |
| KLAUS SCHULTES, ET AL. | : EXAMINER: REDDY, K. |
| SERIAL NO: 10/575,929 | : |
| FILED: APRIL 14, 2006 | : GROUP ART UNIT: 1796 |
| FOR: POLYMER BLEND FOR MATTE INJECTION MOULDED PARTS | : |

# REPLY BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

In response to the Examiner's Communication of March 16, 2010, Appellants' submit the following corrected Reply Brief.

**Remarks** begin on page 2 of this paper.

## REMARKS

The Examiner's March 16, 2010 Communication states that Appellants' February 12, 2010 Reply Brief was not considered for the reason that it included new evidence. Although not expressly stated in the Examiner's Communication of March 16, it appears that the Examiner has taken the position that Appellants' March 16 Reply Brief was defective. Appellants' assume that a reasonable period for responding is available (e.g., one month).

The Remarks of Appellants' February 12 Reply Brief are repeated below without any submission of new evidence. Appellants have thus timely submitted a corrected Reply Brief. Appellants respectfully request consideration of the present Reply Brief.

## REPLY TO EXAMINER'S ANSWER

The Examiner acknowledges that the present claims limit the materials which may be present in the polymer matrix:

> ...while use of the transitional phrase "consisting essentially of" narrows scope of the polymer matrix to the specified materials and those which do not materially affect the basic and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, "consisting essentially of" is construed as equivalent to "comprising". Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e., polycarbonate, would in fact be excluded from the claims and that such ingredients would materially change the characteristics of Applicants' invention.

See the paragraph bridging pages 15 and 16 of the Examiner's Answer.

Conversely the Examiner takes an inconsistent position with respect to the breadth of the claimed invention. On the one hand the Examiner acknowledges that the transitional phrase "consisting essentially of" narrows the polymer matrix. On the other hand the Examiner asserts that the use of the transitional phrase "comprising" reverses such narrowing and leaves the claim open to other components.

Appellants submit that the language of the claim is clear. The polymer matrix must include the materials explicitly recited in the claim (e.g., any of the materials (i)-(iv)) but must exclude components that materially affect the basic and novel properties of the claimed invention. The polymer matrix must therefore "consist essentially of" the one or more components (i)-(iv) and thereby exclude other components (such as polycarbonate – see further arguments below). The Examiner's construction of the claims in a manner to interpret the polymer matrix such that is open to any ingredient is inconsistent with both the explicit language of the claim and the Examiner's logic.

The Examiner further erroneously asserts that there is no clear indication which properties of the claimed invention are basic and novel. Appellants submit that such properties include at least the properties that are explicitly recited in the claim; namely, roughness, gloss and Vicat softening point. Appellants submit that the rejection is not supportable to the extent the Examiner failed to give consideration to the basic and novel characteristics of the claimed invention explicitly recited in the claims.

The Kress Reference

The Examiner states with respect to the Kress et al patent that component (B) of the composition "reads on" the impact modifier (component (b)) of the present claims. Appellants submit that it does not. Impact modifier component (b) of the present claims is a crosslinked polymethacrylate which is not bound to the polymer matrix material (component (a)). On the other hand, the impact modifier (component (B)) of the patent is *a graft polymer formed from a mixture* of various styrene compounds and methyl methacrylate with (meth)acrylonitrile, maleic anhydride, methyl methacrylate or N-substituted maleimide or mixtures thereof *grafted onto* a rubber having a glass transition temperature $\leq 10°$ C. There is no way to reasonably interpret the impact modifier component of the patent as reading on the

more specifically defined impact modifier of the present composition. Finally, Kress et al does not suggest a plastic particle component. Accordingly, the thermoplastic polycarbonate matrix material of the patent in no way is similar to component (a) of the present claims. The patent therefore does not suggest the present invention, and the rejection based on the combination of Kress et al with Lichtenstein et al fails.

The Parker Reference

Appellants maintain that the disclosure of Parker is irrelevant to the present invention, as well as to the Kress et al with Lichtenstein et al patents that have been cited. Parker describes the addition of certain copolymers of acrylic or methacrylic monomers bearing acid functionality (possibly in partially neutralized form) to PVC or copolymers of polyvinyl chloride at low levels which results in a lowered melt viscosity of the chlorinated polymer, yet allows for good fluxing and melt performance, as well as exhibiting desirable physical properties when the blend of polymer materials is cooled. This is of no relevance to the cited primary references, and certainly not the present invention.

The Albrecht Reference

Appellants maintain their position that the Albrecht patent, as a secondary patent disclosure, is also irrelevant, not only to the cited primary references, but also to the present invention. The patent discloses a method (not a composition) of forming a molding composition by copolymerizing a monomer mixture of (a) 60 to 90 % of methyl methacrylate, (b) 5 to 25 % of at least one aromatic compound of the indicated formula, (c) 2.5 to 15 % of maleic anhydride and 0 to 5 % of an alkyl acrylate in the absence of a non-polymerizable organic solvent to a conversion of 35 to 60 %, and then continuing the polymerization reaction in an organic solvent to a conversion of at least 80 % by wt. Volatile

constituents of the reaction medium are then evaporated from the from the product which undoubtedly include unpolymerized monomer. The Examiner states that the patent *teaches a thermoplastic molding composition comprising* 60 to 90 % of methyl methacrylate, 5 to 25 % of at least one aromatic compound of the indicated formula and 2.5 to 15 % of maleic anhydride (see the top of page 9 of the Examiner's Answer). As seen from the discussion above, this is incorrect because what is shown and described in the patent is a two stage method of polymerizing a monomer mixture where the first step is a conversion of reacting monomers to the extent of 35 to 60 %, followed by a second step of advancing the polymerization to at least 80 wt %. This language does not assure an eventual polymer product of the composition stated by the Examiner. Note that volatile materials are removed from the reaction at the end of polymerization, which volatile matter would include unreacted monomers. This disclosure of a method of polymerizing a mixture of monomers is irrelevant to the compositions of the cited Kress et al and Lichtenstein et al patents, as well as to the present composition as claimed

The Suetterlin Reference

The Examiner cites the Suetterlin et al patent for its disclosure of a methyl methacrylate based, multilayered polymer structure that is useful in a number of applications as an impact modifying agent. The Examiner holds that one of skill in the art would find it an obvious thing to do of substituting the impact modifier taught by Suetterlin et al for the graft impact modifier taught by Kress et al and arrive at the present invention. However, appellants maintain that such a substitution would not be obvious to one of skill since it is not apparent that the impact modifier taught by Suetterlin et al would be compatible with the other components of the composition of Kress et al, especially in view of the fact that the matrix material taught by Kress et al is a thermoplastic polycarbonate matrix material which is not

present in the presently claimed composition. Accordingly, the disclosure of Suetterlin et al is not believed to improve upon the deficiencies of the cited and applied prior art.

The Rhein Reference

The Examiner deems the Rhein et al reference as relevant to the present invention, because it relates to the field of methacrylate molding compositions. However, it must be observed that the reference is specifically directed to a method of preparing a thermoplastic molding compound by mixing 60 to 99.95 parts by wt of methyl methacrylate, 0 to 19.95 parts by wt of a $C_{1-4}$ alkyl acrylate, 0.05 to 0.25 parts by wt of an alkyl mercaptan accompanied by continuous removal (degassing) of volatile components from the mixture and continuous extrusion of the degassed melt into stranded polymer product. This disclosure is certainly not relevant to a polymethacrylate material as specified in the present claims. In fact, it is not clear at all what the composition is of any given polymer product produced, since the monomer mixture employed on any given occasion is only polymerized to an extent of 30 to 70 %. Of what relevance is the process disclosed to the present molding composition as claimed?

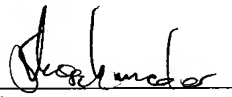
The Examiner continues to hold that because the intrinsic viscosity values of polymer materials disclosed in some of the applied references overlap with the softening point data of (meth)acrylate components (i) and (ii) of the present claims, that this fact renders the present molding composition, at least with respect to the (meth)acrylate component, obvious over the cited prior art (see page 14 of the Examiner's Answer, for instance). Appellants do not concur with this view. It must be made clear that the softening point data of polymer compositions is an entirely different property than intrinsic viscosity values of a polymer. The softening point of a given polymer is determined by the application of thermal energy to a specimen. At a certain temperature the polymer sample being heated softens and this value is observed. On

the other hand, the solution viscosity of a polymer is determined by dissolving a polymer sample in a specified solvent such as chloroform and then measuring the viscosity of the solution at a specific temperature. The methods of determining these two values are very different and completely unrelated. One can not reach a conclusion of what values would be expected for one of the properties of a series of polymer samples tested based on values obtained on the same polymer samples for the other property. Accordingly, the Examiner's attempt at correlating the properties of softening point and solution viscosity as an means of determining obviousness is improper.

For the reasons stated above and those reasons set forth in Appellants' Appeal Brief, the rejection of the claims should now be overturned.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



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